

A NEW GENUS OF WATER SCAVENGER BEETLE
FROM CHILE
(COLEOPTERA: HYDROPHILIDAE: SPHAERIDIINI)

PAUL J. SPANGLER

Smithsonian Institution, Washington, D.C. 20560

ABSTRACT

A new sphaeridiine hydrophilid beetle from Chile, *Andotypus ashworthi*, new genus, new species, is described, illustrated, and interpolated into previously published keys to genera. Notes on its habitats and its known distribution in the southern half of Chile are included.

A single female of this new genus was first collected by Dr. Oliver S. Flint, Jr., in 1969 from Isla Mornington, in Magallanes Province, Chile. However, the specimen was held undescribed with the hope that more specimens would become available. Recently, Dr. Allan Ashworth, Mr. John Hoganson, and Mr. Howard Mooers collected two additional specimens from Osorno Province, Chile, a little over 1,000 kilometers north of Dr. Flint's original collection. Because more specimens are now available and both sexes are represented, the new genus and species is described below.

SPHAERIDIINI

Andotypus Spangler, **new genus**

Body form (Fig. 1) ovate, moderately convex. Head with clypeus expanded shelf-like in front of eyes and truncate anteriorly. Labrum hidden by clypeus. Eyes viewed from above ovoid. Antenna 9 segmented; 2 basal, 3 intermediate, 1 cupule, and 3 club segments; only club segments pubescent. Maxillary palpus shorter than antennae, robust, and 4 segmented; basal segment very short; second (pseudobasal) segment slightly longer than and twice as broad apically as penultimate segment; penultimate and ultimate segments about equal in length. Prosternum swollen medially, not carinate, apex acute and extending partially between procoxae. Mesosternum (Fig. 3) bearing a glabrous, broadly tectiform apicomedial process separated from a distinctly toothlike posteromedial process lying between and slightly in front of mesocoxae. Metasternum apically with a short narrow carina between and slightly behind posterior halves of mesocoxae; disc of metasternum higher than sides and bearing a narrow, longitudinal, glabrous area on midline on posterior half; behind glabrous area, metasternum terminates in a narrowly triangular apex which extends part way between metacoxae on midline. Elytron with sutural stria; broad, moderately convex; shining; bearing 10 distinct rows of very coarse punctures and, laterally, a partial eleventh row; epipleura wide and almost horizontal basally, narrowing abruptly and becoming almost vertical opposite first abdominal sternum. Scutellum a short, equilateral triangle. Femur densely covered with hydrofuge pubescence except about apical eighth. Tarsal formula 5-5-5. Middle and hind tarsi with first segment longest, twice as long as second segment; third and fourth segments smaller and subequal. Abdominal sterna not carinate.

Type-species of the genus: *Andotypus ashworthi*, new species.

Etymology: *Ando* from the Andes mountains in which this taxon was found plus *typus* from *Cyclotypus*, the genus which this new one most closely resembles. Gender: masculine.

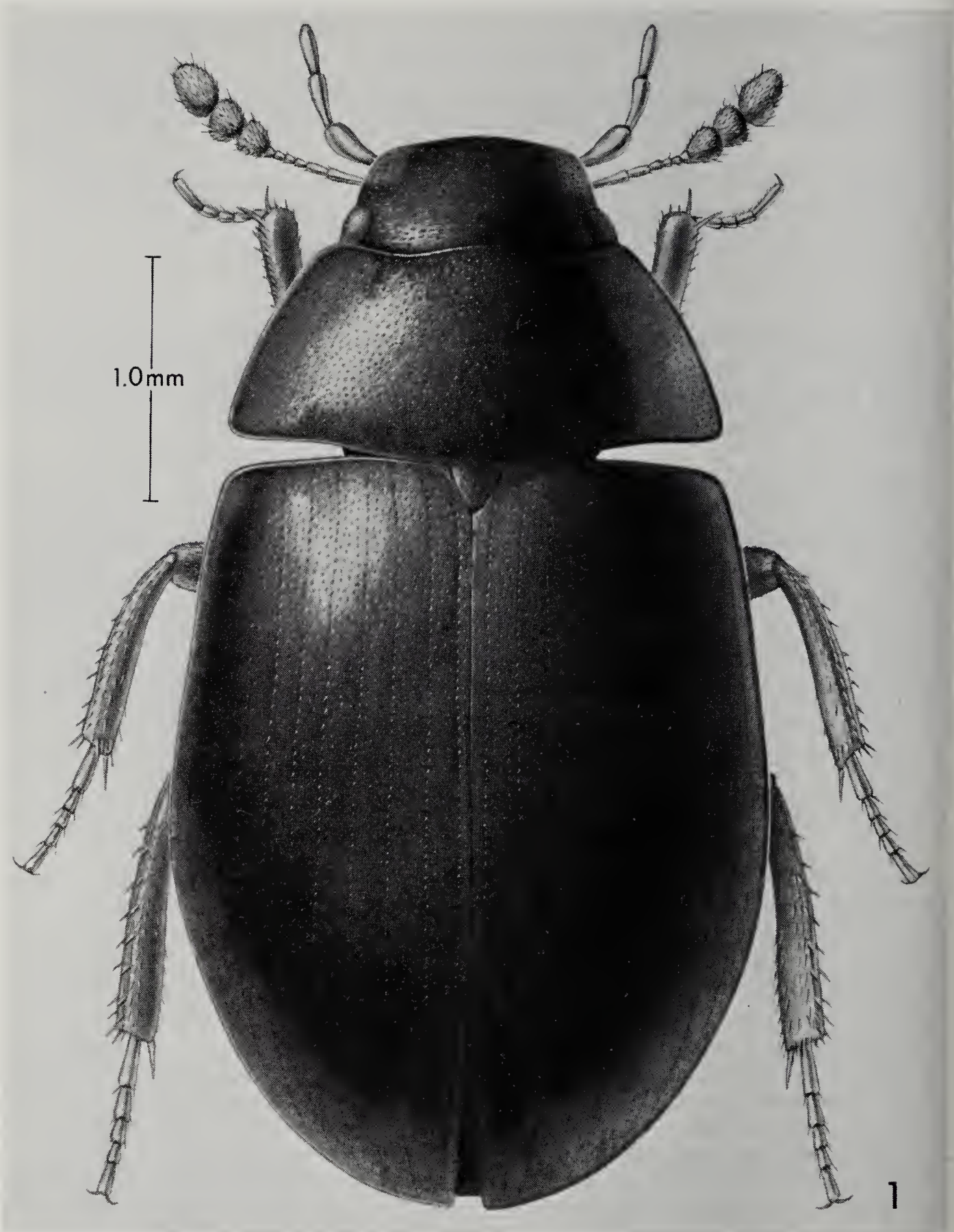
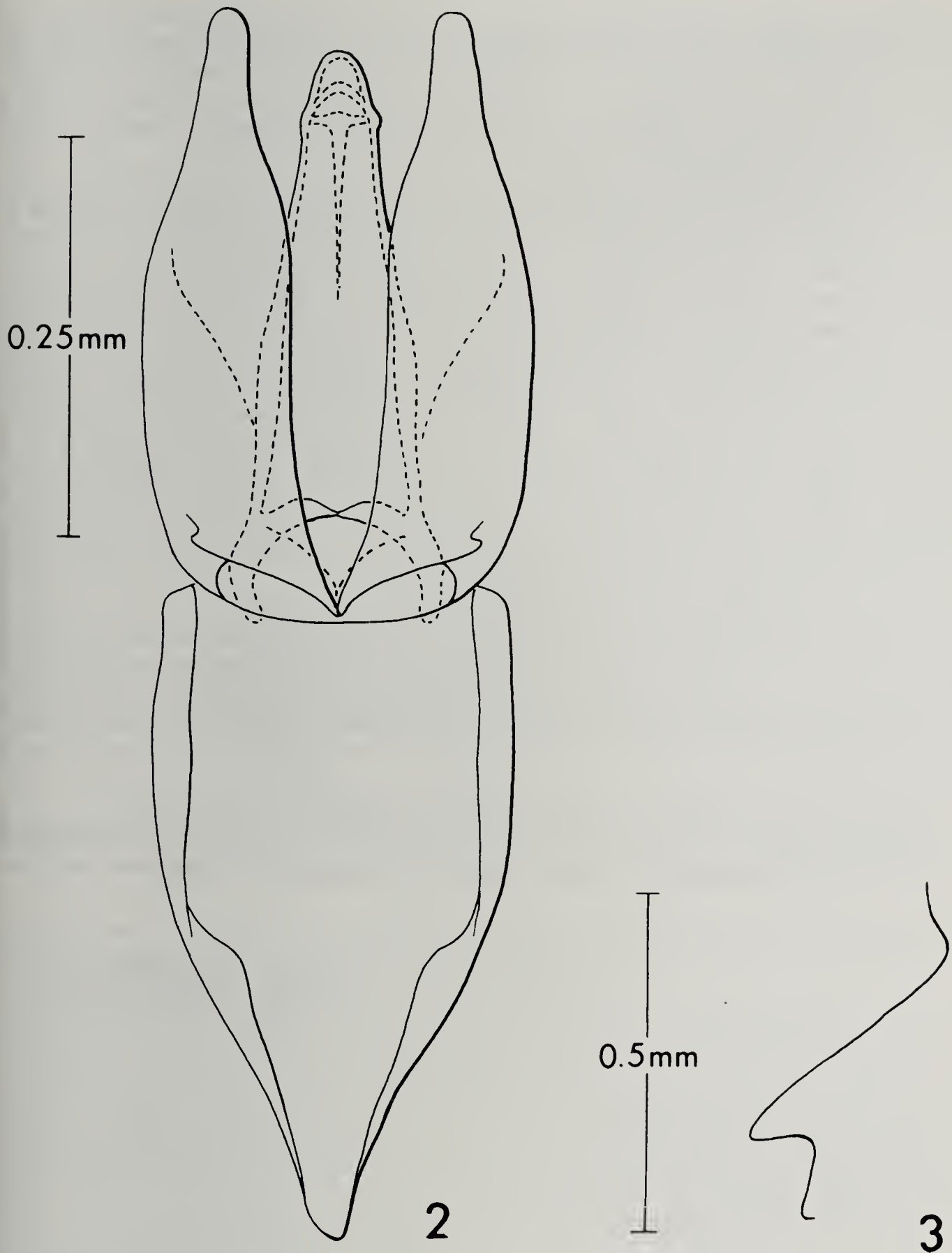


Fig. 1. *Andotypus ashworthi* n. sp., habitus view.

This new taxon keys to the genus *Cyclotypus* Sharp in d'Orchymont's (1937) key to the genera of the tribe Sphaeridiini (couplet 3, first rubric). The following couplet interpolated into d'Orchymont's key will separate *Andotypus* from *Cyclotypus* and the other genera in the Sphaeridiini.

- 3a. Mesosternum bearing a broad tectiform process apicomediaally which is separated from a stout posteromedial toothlike process (Fig. 3); Chile*Andotypus* Spangler
- Mesosternum without modification; Central America.....
.....*Cyclotypus* Sharp



Figs. 2-3. *Andotypus ashworthi* n. sp.: 2, male genitalia, dorsal view; 3, mesosternal process, lateral view.

Andotypus ashworthi Spangler, **new species**

Figures 1-5

Holotype male: Length 4.5 mm; greatest width 2.3 mm, slightly behind mid-length. Color: Head piceous except anterolateral angles in front of eyes reddish brown. Pronotal disc with broad black macula extending from base to apex, covering medial one-third apically and diverging to cover medial three-fifths basally; lateral margins broadly testaceous. Elytron dark brown to piceous except lateral

margins narrowly reddish brown along basal half then widening apically leaving apical fifth reddish brown. Ventral surface piceous to dark reddish brown except as follows: antennal segments 1 to 6 reddish brown, club black; maxillary and labial palpi reddish brown. Hypopleura, epipleura, legs and first three abdominal sterna distinctly to vaguely reddish brown. Entire venter behind mentum densely covered with yellowish hydrofuge pubescence.

Head shining; with dense coarse punctures on disc, punctures separated by about one-half their diameters; punctures fine on anterior margin of clypeus and base of head. Clypeus expanded shelflike in front of eyes and covering labrum; anterior margin truncate. Ventral surface of head with microsculpture and pubescence except mentum, maxillae, and other appendages smooth. Stipes of maxillae glabrous and moderately coarsely and moderately densely punctate. Mentum margined laterally and anteriorly, concave apicomediaally, rugose basally, bearing numerous coarse punctures apically. Antenna 9 segmented; 2 basals, 3 intermediate, 1 cupule, 3 club segments. Maxillary palpus robust, shorter than antenna; 4 segmented; basal segment very short; second (pseudobasal) segment slightly longer than and twice as broad apically as penultimate segment; penultimate and ultimate segments about equal in length. Labial palpus small, 3 segmented; first segment short, about a fourth as long as second segment; second segment about as long as third segment but broader and bearing a tuft of long yellowish-brown setae along anterior edge; third segment almost parallel sided and tapering to apex.

Pronotum slightly more than twice as wide as long; strongly arcuate laterally; shining and punctate; discal punctures less coarse than those on head and separated by one or two times their diameters; lateral punctures coarser and denser than those on discal area; anterior, lateral, and posterolateral third of posterior edges finely margined; anterolateral angles rounded; posterolateral angles not rounded, forming right-angles; lateral edges of hypopleura and epipleura finely, sparsely punctate.

Scutellum an equilateral triangle; bearing several fine, sparse punctures.

Elytron broad, moderately convex; shining; with distinct sutural stria apically but becoming effaced on basal third; bearing 10 distinct rows of punctures and, lat-

79-487



Fig. 5. *Andotypus ashworthi* n. sp., known distribution.

erally, a partial eleventh row; intervals punctate, punctures fine and coarse intermixed; epipleura wide and almost horizontal basally, narrowing abruptly and becoming almost vertical opposite first abdominal sternum.

Prosternum slightly swollen medially, not carinate, terminating posteromedially in an acute apex which extends partially between procoxae. Mesosternum (Fig. 3) bearing a glabrous broadly tectiform apicomedial process separated from a distinctly toothlike posteromedial process lying between and slightly in front of mesocoxae. Metasternum apically with a short narrow carina between and slightly behind posterior halves of mesocoxae; disc of metasternum higher than sides and bearing a narrow, longitudinal, glabrous area on midline on posterior half; behind glabrous area, metasternum terminates in a narrowly triangular apex which extends part way between metacoxae on midline.

Front, middle, and hind legs with femora covered with hydrofuge pubescence on all surfaces except apical eighth glabrous. All tarsi ventrally with dense covering of long, golden setae. Tarsal formula 5-5-5. Foreleg with basal two segments subequal and slightly longer than segments 3 and 4; last segment about three times longer than penultimate segment. Middle and hind tarsi with first segment longest, twice as long as second segment; third and fourth segments smaller and subequal. All tarsal claws small and slender.

Abdominal sterna covered with yellowish hydrofuge pubescence. Last visible abdominal sternum rounded, not emarginate apicomediaally.

Genitalia as illustrated (Fig. 2).

Allotype: Similar to male; no external sexual differences were found.

Type-data: Holotype male: CHILE: Osorno Province, Parque Nacional de Puyehue, near Laguna Espejo, 7 Dec. 1977, Ashworth, Hoganson and Mooers, USNM Type

No. 75666, deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C.

Allotype: Same data as holotype.

Paratype: CHILE, Magallanes Prov., Isla Mornington, Puerto Alert, 26-27 Sept. 1969, O. S. Flint, Jr. 1 female.

The holotype and allotype were collected in the Valdivian Rain Forest (Fig. 4) at 500 m. elevation in a human-dung-baited pitfall trap. The paratype was collected by Dr. Flint probably from beneath seaweed in beach drift. There are no humans nor domestic animals and few if any native mammals on Isla Mornington so it seems likely that *Andotypus ashworthi* is a scavenger typical of many sphaeridiine hydrophilids.

This new hydrophilid presently is known only from two widely separated localities (Fig. 5) in the southern half of Chile.

Etymology: It gives me great pleasure to dedicate this new species to my friend Dr. Allan Ashworth who collected the recent specimens of this new genus and whose research on fossil insects has provided us with new insights into the geological history of insects.

REFERENCE CITED

- D'ORCHYMONT, A. 1937. Sphaeridiini bromeliadicoles nouveau (Coleoptera: Hydrophilidae, Sphaeridiinae). Ann. Mag. Nat. Hist., Ser. 10, 20:127-140, 2 figs.



BOOK NOTICES

The preparation and curation of insects, by Annette K. Walker and Trevor K. Crosby. 1979. Science Information Division, Department of Scientific and Industrial Research, P.O. Box 9741, Wellington, New Zealand. Paper, 55p., NZ\$2.50.

Ecological methods: With particular reference to the study of insect populations, second edition, by T. R. E. Southwood. 1978. Halsted Press, a division of John Wiley & Sons, Inc., 1 Wiley Drive, Somerset, NJ 08873. Hardbound, 524p.

Diversity of insect faunas, edited by L. A. Mound & N. Waloff. 1979. John Wiley & Sons, Inc., One Wiley Drive, Somerset, NJ 08873. Cloth, 204p., \$37.50.

The phytophagous Scarabaeidae and Troginae (Coleoptera) of North Dakota, by P. K. Lago, R. L. Post, and C. Y. Oseto. 1979. North Dakota Insects Publication No. 12. Schafer-Post Series (Published with the approval of the Director of the N. D. Agric. Exp. Sta.). Paper, 131p., \$2.50.

Training manual for analytical entomology in the food industry, (FDA Technical Bulletin No. 2), edited by J. Richard Gorham. 1977. Available from The Association of Official Analytical Chemists, Box 540, Benjamin Franklin Station, Washington, D.C. 20044. Notebook, 174p., \$12.50.

Facilities for insect research and production, edited by N. C. Leppla & T. R. Ashley. 1978. USDA Technical Bulletin No. 1576, 86p.